Wide Bandgap Semiconductors (MS)

Degree Requirements

Code	Title	Hours
Core Courses		**13**
ECE 502	Wide Bandgap Semiconductor Devices and Applications	
ECE 530	Physics of Semiconductors	
ECE 592	Special Topics In Electrical Engineering (Laboratory for Integrated Circuit Technology and Fabrication)	
ECE 740	Wide Bandgap Semiconductor Device Fabrication and Technology	
MSE 560	Microelectronic Materials Science and Technology	
or ECE 538	Integrated Circuits Technology and Fabrication	
Electives		**12**
Students can select 12 credits from the elective courses listed below		
Device Electives		
ECE 511	Analog Electronics	
ECE 523	Photonics and Optical Communications	
ECE 529	Semiconductor Optoelectronic Devices	
ECE 533	Power Electronics Design & Packaging	
ECE 534	Power Electronics	
ECE 553	Semiconductor Power Devices	
ECE 557	Principles Of MOS Transistors	
ECE 724	Electronic Properties Of Solid-State Devices	
ECE 735	Wide Band Gap Semiconductor Power Devices	
ECE 712	Integrated Circuit Design for Wireless Communications	
ECE 719	Advanced Microwave Design	
Materials Electives		
MSE 703	Interaction of Electrons with Materials	
MSE 704	Interaction of Photons with Materials	
MSE 751	Thin Film and Coating Science and Technology I	
MSE 752	Thin Film and Coating Science and Technology II	
MSE 760	Materials Science in Processing of Semiconductor Devices	
Practicum Courses		**6**
Students must take the two practicum courses below		
ECE 640	Semiconductor Manufacturing Practicum I	
ECE 641	Applications Engineering Using Wide Bandgap Semiconductors Practicum II	
Total Hours		**31**

Faculty

Subhashish Bhattacharya

Ramon Collazo

Paul Franzon

Douglas Hopkins

Ki Wook Kim

Fred Kish

Veena Misra

John Muth

Jay Narayan

Mehmet Ozturk

Spyridon Pavlidis

Zlatko Sitar

Franky So

Victor Veliadis

John Wierer